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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of:	)	
	:	Examiner: Robert Havlin
SHINJI NARA ET AL.	)	
	:	Art Unit: 1626
Appln. No.: 10/561,415	)	
	:	Conf. No.: 6544
Filed: December 19, 2005	)	
	:	
For: HSP90 FAMILY	)	
PROTEIN INHIBITORS	:	
	)	
U.S. Patent No.: US 7,538,224 B2	:	
	)	
Issued: May 26, 2009	:	September 18, 2009

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

CERTIFICATE OF CORRECTION UNDER RULES 322 AND 323


Sir:

It is respectfully requested that a Certificate of Correction be issued by the Patent and Trademark Office due to errors which appear in the printed patent as a result of Patent and Trademark Office mistakes, and mistakes of a clerical, typographical, or minor character, which were not the fault of the Patent and Trademark Office. A Certificate of Correction form, in duplicate, is enclosed.

The amount of \$100.00 to cover the statutory fee for such Certificate of Correction is being paid concurrently; please charge any deficiency in this fee, and credit any overpayment, to Deposit Account 06-1205.

Patentees' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

Respectfully submitted,



Lawrence S. Perry  
Attorney for Patentees  
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FCHS\_WS 3849407v1

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DATE : May 26, 2009

INVENTOR(S) : SHINJI NARA ET AL.

Page 1 of 20

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

ON COVER PAGE [\*] NOTICE:

Notice, "This patent is subject to a terminal disclaimer." should be deleted.

COLUMN 2:

Line 39, "(Cell Stress)" should read --(Cell Stress-- and "Vol., 3," should read --Vol. 3,--; and

Line 40, "Vol., 42," should read --Vol. 42,--.

COLUMN 6:

Line 25, "2,4-bis(benzyloxy)-6-(3-oxopentyl)phenyl;" should read --2,4-bis(benzyloxy)-6-(3-oxopentyl)-phenyl;--;

Line 26, "R<sup>4A</sup> are, each" should read --R<sup>4A</sup> are each--; and

Line 33, "phenyl]" should read --phenyl,--.

COLUMN 9:

Line 4, "aromatic," should read --aromatic--.

COLUMN 11:

Line 8, "piperiditoalkyl," should read --piperidinoalkyl,--; and

Line 52, "organic" should read --Organic--.

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

COLUMN 12:

Line 27, "(1999)]" should read --(1999)]--.

COLUMN 15:

Line 5, "agent," should read --agent--;

Line 6, "benziodoxol" should read --benzodioxol--;

Line 9, "dichloromethane," should read --dichloromethane,--; and

Line 54, "between -20 C." should read --between -20°C--.

COLUMN 16:

Line 30, "According" should read --according--.

COLUMN 17:

Line 16, "triphenylphosphine" should read --(triphenylphosphine)--.

COLUMN 18:

Line 25, "R<sup>1d</sup> represents" should read --R represents--; and

Line 53, "with to 5" should read --with 1 to 5--.

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COLUMN 19:

Line 51, "material," should read --material,--.

COLUMN 41:

Line 62, "protien." should read --protein.--.

COLUMN 42:

Line 62, "controls" should read --controls-- and "which" should read --wherein--; and

Line 63, "compound thereon." should read --compound.--.

COLUMN 43:

Line 41, "treated" should read --treated with--;

Line 54, "Vol., 3," should read --Vol. 3,--; and

Line 55, "Vol., 14," should read --Vol. 14,--.

COLUMN 44:

Line 65, "preferably-0.05" should read --preferably 0.05--.

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COLUMN 45:

Line 47, "(4.6 g, 98%). <sup>1</sup>H-NMR" should read --(4.6 g, 98%) ¶ <sup>1</sup>H-NMR--.

COLUMN 46:

Line 1, "benzene. <sup>1</sup>H-NMR" should read --benzene. ¶ <sup>1</sup>H-NMR--.

COLUMN 47:

Line 3, "3.15 (s, 3H)" should read --3.15 (s, 3H)--; and  
Line 12, "-6 (2-methoxyethyl)" should read ---6-(2-methoxyethyl)--.

COLUMN 50:

Line 10, "(2-methoxyethyl)" should read (2-methoxyethyl)---;  
Line 25, "(10' mL)," should read --(10 mL),--; and  
Line 44, "270 MHz)." should read --270 MHz)--.

COLUMN 51:

Line 5, "(ddt, J=1.0.6," should read --(ddt, J-10.6,--; and  
Line 23, "(30 g, 65%). <sup>1</sup>H-NMR" should read --(30 g, 65%). ¶ <sup>1</sup>H-NMR--.

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COLUMN 53:

Line 15, "(s, 3H) ESI-MS" should read --(s, 3H) ¶ ESI-MS--.

COLUMN 54:

Line 29, "(0.89 g, 2.4=mmol)" should read --(0.89 g, 2.4 mmol)--.

COLUMN 55:

Line 28, "(2'-methoxy-" should read --(2-methoxy---; and

Line 51, "1H-NMR" should read --¶ 1H-NMR--.

COLUMN 56:

Line 54, "(8.0 ml) 1H-NMR" should read --(8.0 ml). ¶ 1H-NMR--.

COLUMN 57:

Line 28, "97%). 1H-NMR" should read --97%). ¶ 1H-NMR--;

Line 35, "2-(3,5-diallyloxy 2-" should read --2-(3,5-diallyloxy 2---; and

Line 39, "(2.0 mL). 1H-NMR" should read --(2.0 mL). ¶ 1H-NMR--.

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COLUMN 58:

Line 4, "0.12 mmol). <sup>1</sup>H-NMR" should read --0.12 mmol). ¶ <sup>1</sup>H-NMR--.

COLUMN 60:

Line 23, "anhydrous" should read --over anhydrous-- and "over" should be deleted; and  
Line 28, "<sup>1</sup>HNMR" should read --<sup>1</sup>H-NMR--.

COLUMN 65:

Line 52, "3H) APCI-MS" should read --3H ¶ APCI-MS--.

COLUMN 67:

Line 14, "(10 mL) <sup>1</sup>H-NMR" should read --(10 mL) ¶ <sup>1</sup>H-NMR--.

COLUMN 69:

Line 2, "(1.0 mL)," should read --(1.0 mL).--;  
Line 29, "3.42, (brs, 2H)," should read --3.42 (brs, 2H).--;  
Line 30, "3H) APCI-MS" should read --3H) ¶ APCI-MS--;  
Line 58, "dimethoxybenzoyl" should read --dimethoxybenzoyl)-- and "acid)" should read --acid--; and  
Line 59, "phenylacetic acid" should be deleted.

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COLUMN 71:

Line 14, "(1.0 mL). <sup>1</sup>H-NMR" should read --(1.0 mL). ¶ <sup>1</sup>H-NMR--; and  
Line 56, "46(70)" should read --46 (70--.

COLUMN 72:

Line 38, "(1.0 mL). 1H-NMR" should read --(1.0 mL). ¶ <sup>1</sup>H-NMR--; and  
Line 67, "3H) ES-MS" should read --3H) ¶ ES-MS--.

COLUMN 73:

Line 15, "mL)" should read --mL).--;  
Line 33, "(25 mL)" should read --(25 mL).--; and  
Line 50, "3H)," should read --3H)--.

COLUMN 75:

Line 53, "4.99 (s, 0.2H)," should read --4.99 (s, 2H),--.

COLUMN 76:

Line 25, "3H) ESI-MS" should read --3H) ¶ ESI-MS--.

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COLUMN 77:

Line 11, "3H) ESI-MS" should read --3H) ¶ ESI-MS--;  
Line 22, "(1.0 mL). <sup>1</sup>H-NMR" should read --(1.0 mL). ¶ <sup>1</sup>H-NMR--;  
Line 27, "5.07-4.99 (m 2H)" should read --5.07-4.99 (m, 2H)--; and  
Line 44, "3H) APCI-MS" should read --3H) ¶ APCI-MS--.

COLUMN 79:

Line 63, "-2-[2-[(2,2-" should read ---2-{2-[(2,2---; and  
Line 64, "methoxy]-ethyl}" should read --methoxy]ethyl}--.

COLUMN 80:

Line 8, "(1.0 mL). <sup>1</sup>H-NMR" should read --(1.0 mL). ¶ <sup>1</sup>H-NMR--; and  
Line 51, "(ethyl acetate/hexane 1/9-1/1)" should read --(ethyl acetate/hexane =  
1/9-1/1--.

COLUMN 81:

Line 25, "(Step 4)" Insert line space above.

COLUMN 85:

Line 62, "5.2.4 (s, 2H)," should read --5.24 (s, 2H),--.

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COLUMN 87:

Line 37, "furyl-ketone" should read --furyl=ketone--;  
Line 42, "acetonitrile," should read --acetonitrile--; and  
Line 48, "5.30 (dq, J = 0.11," should read --5.30 (dq, J = 11,--.

COLUMN 89:

Line 46, "Elemental Analysis: (C<sub>28</sub>H<sub>25</sub>N<sub>3</sub>O<sub>5</sub>·0.2H<sub>2</sub>O)" should read ---Elemental  
Analysis: (C<sub>28</sub>H<sub>25</sub>N<sub>3</sub>O<sub>5</sub>·0.2H<sub>2</sub>O)--; and  
Line 58, "dihydroxyphenylacetic" should read --dihydroxyphenylacetic--.

COLUMN 90:

Line 20, "acetate. Melting" should read --acetate. ¶ Melting--;  
Line 41, "(mol)," should read --mmol)--; and  
Line 52, "Elemental Analysis: (C<sub>28</sub>H<sub>27</sub>NO<sub>5</sub>·0.2H<sub>2</sub>O)" should read --Elemental  
Analysis: (C<sub>28</sub>H<sub>27</sub>NO<sub>5</sub>·0.2H<sub>2</sub>O)--.

COLUMN 91:

Line 37, "(10 mL). <sup>1</sup>H-NMR" should read --(10 mL). ¶ <sup>1</sup>H-NMR--.

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COLUMN 92:

Line 22, "5 (ppm):" should read -- $\delta$  (ppm):--.

COLUMN 93:

Line 53, "5.29° (m, 1H)," should read --5.29 (m, 1H),--.

COLUMN 96:

Line 7, "3.3.7 (m, 2H)," should read --3.37 (m, 2H),--.

COLUMN 98:

Line 20, "(3-hydroxy-74-methoxybenzoyl)" should read --(3-hydroxy-4-methoxybenzoyl)--.

COLUMN 100:

Line 37, "(2 mL). <sup>1</sup>H-NMR" should read --(2 mL). ¶ <sup>1</sup>H-NMR--.

Line 41, "3H) APCI-MS" should read --3H) ¶ APCI-MS--.

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COLUMN 101:

Line 11, "13 mL). <sup>1</sup>H-NMR" should read --13 mL). ¶ <sup>1</sup>H-NMR--; and  
Line 65, "(3-methylsulfonylbenzoyl)" should read --(3-methylsulfonylbenzoyl)--.

COLUMN 102:

Line 25, "Hz, 3H) APCL-MS" should read --Hz, 3H) ¶ APCL-MS--.

COLUMN 103:

Line 30, "sulfonyl-benzoyl)" should read --sulfonylbenzoyl)--.

COLUMN 104:

Line 7, "<sup>1</sup>H-NMR" should read --¶ <sup>1</sup>H-NMR--.

COLUMN 105:

Line 43, "(5.0 mL). H-NMR" should read --(5.0 mL). ¶ <sup>1</sup>H-NMR--; and  
Line 67, "0.31° mmol)," should read --0.31 mmol),--.

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COLUMN 106:

Line 6, "methoxyethyl)" should read --methoxyethyl)---.  
Line 10, "<sup>1</sup>H-NMR" should read --¶ <sup>1</sup>H-NMR--; and  
Line 66, "<sup>1</sup>H-NMR" should read --¶ <sup>1</sup>H-NMR--.

COLUMN 107:

Line 26, "δ (ppm): 7.5.4" should read --δ (ppm): 7.54--; and  
Line 59, "<sup>1</sup>H-NMR" should read --¶ <sup>1</sup>H-NMR--.

COLUMN 109:

Line 7, "Example 10'," should read --Example 10,--; and  
Line 37, "(Step 1) 2-[3,5-Diallyloxy" should read --(Step 1)¶ 2-[3,5-Diallyloxy--.

COLUMN 110:

Line 5, "(3 mL). <sup>1</sup>H-HMR" should read --(3 mL). ¶ <sup>1</sup>H-HMR--; and  
Line 49, "(310 mg, 0.52 = mmol)" should read --(310 mg, 0.52 mmol)--.

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COLUMN 111:

Line 42, "Step 1'," should read --Step 1,--; and

Line 61, "H-HMR" should read --¶<sup>1</sup>H-HMR--.

COLUMN 113:

Line 22, "2-ethyl-6'." should read --2-ethyl-6---; and

Line 62, "51%). Melting" should read --51%). ¶<sup>1</sup> Melting--.

COLUMN 114:

Line 2, "(C<sub>26</sub>H<sub>34</sub>N<sub>2</sub>O<sub>7</sub>·0.2H<sub>2</sub>O)" should read --(C<sub>26</sub>H<sub>34</sub>N<sub>2</sub>O<sub>7</sub>·0.2H<sub>2</sub>O)--; and

Line 45, "5.4-4 (m, 1H)," should read --5.44 (m, 1H),--.

COLUMN 115:

Line 44, "(C<sub>25</sub>H<sub>34</sub>N<sub>2</sub>O<sub>6</sub>·0.1H<sub>2</sub>O)" should read --(C<sub>25</sub>H<sub>34</sub>N<sub>2</sub>O<sub>6</sub>·0.1H<sub>2</sub>O)--.

COLUMN 116:

Line 56, "-N-(2-(4-morpholinoethyl)acetamide)" should read ---N-(2-morpholinoethyl)acetamide--.

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COLUMN 117:

Line 2, "(C<sub>28</sub>H<sub>38</sub>N<sub>2</sub>O<sub>8</sub>·2.5H<sub>2</sub>O)" should read --(C<sub>28</sub>H<sub>38</sub>N<sub>2</sub>O<sub>8</sub>·2.5H<sub>2</sub>O)--.

COLUMN 118:

Line 9, "(m, 3H) APCI-MS" should read --(m, 3H) ¶ APCI-MS--;  
Line 10, "(C<sub>24</sub>H<sub>31</sub>NO<sub>7</sub>·0.2H<sub>2</sub>O)" should read --(C<sub>24</sub>H<sub>31</sub>NO<sub>7</sub>·0.2H<sub>2</sub>O)--;  
Line 23, "118-(0.17 g, 42%)" should read --118 (0.17g, 42%)--; and  
Line 63, "7.47-7.41 (m, 2H)" should read --7.47-7.41 (m, 2H)--.

COLUMN 119:

Line 2, "(C<sub>25</sub>H<sub>33</sub>NO<sub>8</sub>·0.3H<sub>2</sub>O)" should read --(C<sub>25</sub>H<sub>33</sub>NO<sub>8</sub>·0.3H<sub>2</sub>O)--.

COLUMN 120:

Line 54, "(t, J = 7.3°Hz, 3H)" should read --(t, J = 7.3 Hz, 3H)--.

COLUMN 121:

Line 5, "H-NMR" should read --<sup>1</sup>H-NMR--.

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COLUMN 124:

Line 25, "6.1.1 (m, 1H)," should read --6.11 (m, 1H),--;

Line 38, "Example 126; Step 1," should read --Example 126, Step 1,--; and

Line 49, "(C<sub>27</sub>H<sub>38</sub>N<sub>2</sub>O<sub>7</sub>·0.3H<sub>2</sub>O)" should read --(C<sub>27</sub>H<sub>38</sub>N<sub>2</sub>O<sub>7</sub>·0.3H<sub>2</sub>O)--.

COLUMN 125:

Line 26, "3.64 (s, total (2H)," should read --3.64 (s, total 2H),--;

Line 31, "(C<sub>26</sub>H<sub>36</sub>N<sub>2</sub>O<sub>6</sub>·0.3H<sub>2</sub>O)" should read --(C<sub>26</sub>H<sub>36</sub>N<sub>2</sub>O<sub>6</sub>·0.3H<sub>2</sub>O)--; and

Line 56, "6.94, (m, 1H)," should read --6.94 (m, 1H),--.

COLUMN 126:

Line 13, "(C<sub>16</sub>H<sub>18</sub>O<sub>5</sub>·0.3H<sub>2</sub>O)" should read --(C<sub>16</sub>H<sub>18</sub>O<sub>5</sub>·0.3H<sub>2</sub>O)--;

Line 32, "Example 110, Step 11" should read --Example 110, Step 1,--;

Line 58, "(2H) 6.95" should read --(2H), 6.95-- and "3.8.6 (s, 3H)," should read --3.86 (s, 3H),--; and

Line 64, "(C<sub>27</sub>H<sub>38</sub>N<sub>2</sub>O<sub>6</sub>·2.0H<sub>2</sub>O)" should read --(C<sub>27</sub>H<sub>38</sub>N<sub>2</sub>O<sub>6</sub>·2.0H<sub>2</sub>O)--.

COLUMN 127:

Line 35, "2.0 mL). Melting" should read --2.0 mL). ¶ Melting--.

Line 41, "1.12(m, 1H)," should read --1.12 (m, 1H),--.

Line 44, "(C<sub>28</sub>H<sub>36</sub>N<sub>2</sub>O<sub>7</sub>·0.1H<sub>2</sub>O)" should read --(C<sub>28</sub>H<sub>36</sub>N<sub>2</sub>O<sub>7</sub>·0.1H<sub>2</sub>O)--.

Line 67, "-5.28 (m, 1H)," should read --5.28 (m, 1H),--.

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**CERTIFICATE OF CORRECTION**

PATENT NO. : US 7,538,224 B2

DATED : May 26, 2009

INVENTOR(S) : SHINJI NARA ET AL.

Page 16 of 20

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

COLUMN 128:

Line 13, "(2.0 mL). Melting" should read --(2.0 mL). ¶ Melting--;  
Line 21, "(C<sub>22</sub>H<sub>34</sub>N<sub>2</sub>O<sub>6</sub>·0.4H<sub>2</sub>O)" should read --(C<sub>22</sub>H<sub>34</sub>N<sub>2</sub>O<sub>6</sub>·0.4H<sub>2</sub>O)--; and  
Line 53, "2.21 (, 1H)," should read --2.21 (m, 1H),--.

COLUMN 131:

Line 4, "resulting," should read --resulting--;  
Line 10, "5.29 (s, 2H)," should read --5.29 (s, 2H),--;  
Line 31, "(15 mL). <sup>1</sup>H-NMR" should read --(15 mL). ¶ <sup>1</sup>H-NMR--; and  
Line 34, "(m, 6H) APCI-MS" should read --(m, 6H) ¶ APCI-MS--.

COLUMN 133:

Line 1, "phenylacetate" should read --ethylphenylacetate--.

COLUMN 134:

Line 28, "(C<sub>30</sub>H<sub>42</sub>N<sub>2</sub>O<sub>9</sub>·0.5H<sub>2</sub>O)" should read --  
(C<sub>30</sub>H<sub>42</sub>N<sub>2</sub>O<sub>9</sub>·0.5H<sub>2</sub>O)--;  
Line 50, "3.36-3.15° (m, 9H)," should read --3.36-3.15 (m, 9H)--; and  
Line 55, "(C<sub>26</sub>H<sub>36</sub>N<sub>2</sub>O<sub>6</sub>·0.2H<sub>2</sub>O)" should read --(C<sub>26</sub>H<sub>36</sub>N<sub>2</sub>O<sub>6</sub>·0.2H<sub>2</sub>O)--.

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COLUMN 135:

Line 26, "Compound 11.3" should read --Compound 113--; and  
Line 39, "(C<sub>25</sub>H<sub>34</sub>N<sub>2</sub>O<sub>6</sub>·HCl·0.9H<sub>2</sub>O·0.1CH<sub>3</sub>)" should read --  
(C<sub>25</sub>H<sub>34</sub>N<sub>2</sub>O<sub>6</sub>·HCl·0.9H<sub>2</sub>O·0.1CH<sub>3</sub>)--.

COLUMN 137:

Line 37, "3.66(t, J = 4.9" should read --3.66 (t, J = 4.9--.

COLUMN 138:

Line 5, "(175, mg," should read --(175 mg,--; and  
Line 61, "(2-methoxyethylacetamide" should read --(2-methoxyethyl)  
acetamide--.

COLUMN 140:

Line 35, "(0.0-15 mL)," should read --(0.015 mL),--; and  
Line 38, "(ppm):" should read --δ (ppm):--.

COLUMN 141:

Line 20, "7.39 (dd, J = 8.7, 1.8 Hz; 1H)," should read --7.39 (dd, J = 8.7, 1.8  
Hz, 1H),--; and  
Line 58, "phenyl-acetate" should read --phenylacetate--.

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COLUMN 142:

Line 13, "H-NMR" should read --<sup>1</sup>H-NMR--.

COLUMN 143:

Line 21, "(C<sub>26</sub>H<sub>23</sub>N<sub>23</sub>O<sub>5</sub>S.0.3H<sub>2</sub>O)" should read --(C<sub>26</sub>H<sub>23</sub>N<sub>23</sub>O<sub>5</sub>S.0.3H<sub>2</sub>O)--;

Line 33, "dihydroxy-6" should read --dihydroxy-6--; and

Line 48, "(C<sub>21</sub>H<sub>25</sub>NO<sub>5</sub>S.0.2H<sub>2</sub>O)" should read --(C<sub>21</sub>H<sub>25</sub>NO<sub>5</sub>S.0.2H<sub>2</sub>O)--.

COLUMN 144:

Line 5, "3H) APCI-MS" should read --3H) ¶ APCI-MS--;

Line 32, "(1,3-benzodioxo" should read --(1,3-benzodioxo--;

Line 33, "Step 1: using" should read --Step 1, using--;

Line 38, "(CDOD<sub>3</sub>, 300, MHz)" should read --(CDOD<sub>3</sub>, 300 MHz)--;

Line 41, "H<sub>2</sub>, 3H) APCI-MS" should read --H<sub>2</sub>, 3H) ¶ APCI-MS--; and

Line 42, "[M-H]" should read --[M-H]--.

COLUMN 145:

Line 52, "(3.0 mL) Boiling" should read --(3.0 mL) ¶ Boiling--.

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COLUMN 146:

Line 32, "Boiling" should read --¶ Boiling--.

COLUMN 147:

Line 45, "0.20 mol)" should read --0.20 mol)--.

COLUMN 148:

Line 34, "benzenesulfonamide. <sup>1</sup>H-NMR" should read --benzenesulfonamide.  
¶ <sup>1</sup>H-NMR--.

COLUMN 149:

Line 15, "(Step 1) tert-Butyl" should read --(Step 1) ¶ tert-Butyl--; and  
Line 47, "(CDC<sub>31</sub> 270MHz)" should read --(CDC<sub>3</sub>, 270MHz)--.

COLUMN 151:

Line 29, "R<sup>2A</sup> aryl" should read --R<sup>2A</sup> is aryl--.

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COLUMN 152:

Line 18, "(wherein R" should read --(wherein R<sup>2A</sup>--.

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